

MDCK-SIAT1 | 602281

General information

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| Description | MDCK-SIAT1 is a cell line derived from Madin-Darby Canine Kidney (MDCK), a epithelial cell line derived from a malignant tumor of the kidney of a dog. MDCK-SIAT1 cells are characterized by their ability to express and secrete the enzyme $\alpha$ -2,6-sialyltransferase (ST6Gal1, SIAT1). These cells are used for the study of sialylation and the function of SIAT1 in various biological processes. |
| Organism    | Canis familiaris                                                                                                                                                                                                                                                                                                                                                                                            |
| Tissue      | Kidney                                                                                                                                                                                                                                                                                                                                                                                                      |

Characteristics

|                   |            |
|-------------------|------------|
| Breed/Subspecies  | MDCK       |
| Age               | Adult      |
| Gender            | Male       |
| Morphology        | Epithelial |
| Growth properties | Adherent   |

Identification and documentation

|                      |                                                                                                                                                                                                                                                                                                                            |
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| Citation             | MDCK-SIAT1 (Cytion 602281)                                                                                                                                                                                                                                                                                                 |
| Biosafety level      | 2                                                                                                                                                                                                                                                                                                                          |
| NCBI_TaxID           | 9615                                                                                                                                                                                                                                                                                                                       |
| CellosaurusAccession | CVCL_Z936                                                                                                                                                                                                                                                                                                                  |
| GMO Status           | GMO-S1: MDCK-SIAT1 (Cytion 602281) is a genetically modified organism (GMO) because it has been modified by the introduction of a foreign gene (SIAT1) into the MDCK cell line. The SIAT1 gene is derived from a human cDNA library and is expressed under the control of a strong promoter (CMV) in the MDCK-SIAT1 cells. |

Protein expression and purification

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| Protein expression | ST6Gal1 (SIAT1) is expressed in MDCK-SIAT1 cells. The protein is secreted into the culture medium and can be purified by ion exchange chromatography. |
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Product sheet

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Overview

|                      |                                                                                                                                                                                                                                                         |
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| Culture Medium       | DMEM, w: 4.5 g/L $\text{D-glucose}$ , w: 4 mM L- $\text{glutamine}$ , w: 3.7 g/L $\text{NaHCO}_3$ , w: 1.0 mM $\text{Sodium Pyruvate}$ (Cytion 820300a)                                                                                                 |
| Supplements          | $\text{Sodium Pyruvate}$ 10% FBS 1 $\mu\text{g}/\text{ml}$ G418                                                                                                                                                                                         |
| Dissociation Reagent | $\text{Trypsin}$                                                                                                                                                                                                                                        |
| Doubling time        | 21 $\pm$ 31 $\text{h}$                                                                                                                                                                                                                                  |
| Subculturing         | Cells are grown in $\text{DMEM}$ supplemented with 10% FBS and 1 $\mu\text{g}/\text{ml}$ G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in $\text{DMEM}$ supplemented with 10% FBS and 1 $\mu\text{g}/\text{ml}$ G418. |
| Seeding density      | 2 $\times$ 4 x 10 <sup>4</sup> cells/ $\text{ml}$                                                                                                                                                                                                       |
| Fluid renewal        | 2 $\times$ 3 $\text{h}$ $\text{DMEM}$ $\text{DMEM}$                                                                                                                                                                                                     |
| Freeze medium        | $\text{DMEM}$ supplemented with 10% FBS and 10% DMSO (Cytion 820300a) + 10% DMSO (Cytion 820300a) + 10% DMSO (Cytion 820300a)                                                                                                                           |

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| Thawing and Culturing Cells | <ol style="list-style-type: none"><li>1. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>2. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>3. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>4. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>5. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>6. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>7. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li><li>8. Cells are grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418. Cells are grown in T25 flasks, split 1:3-5 into 96-well plates, and grown in <math>\text{DMEM}</math> supplemented with 10% FBS and 1 <math>\mu\text{g}/\text{ml}</math> G418.</li></ol> |
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**Incubation Atmosphere** 37°C, 5%<sub>CO2</sub>, humidified air

**Flask Coating** none

**Freezing Procedure** Cells are seeded into 24-well plates and grown to confluence. Cells are then trypsinized and resuspended in freezing medium (DMEM, 10% FBS, 10% DMSO). The suspension is then aliquoted into 1 ml vials and frozen at -78°C.

**Shipping Conditions** Cells are shipped in freezing medium at -78°C.

**Storage Conditions** Cells can be stored at -150 °C for up to 196 weeks. Cells should be stored in the dark.

MDCK-SIAT1 (ATCC CCL-22)

**Sterility** Cells are provided as a frozen suspension in DMEM, 10% FBS, 10% DMSO. Cells are PCR negative for mycoplasma contamination. Cells are also free of endotoxins.